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EXAMINER

CHARLES, MARCUS

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 08/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/673,135

Applicant(s)

BURKHARDT ET AL.

Examiner

Marcus Charles

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-18 is/are allowed.
- 6) ☒ Claim(s) 1-15 and 19-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 05 June 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

This action is responsive to the amendment filed 06-05-2002, which has been entered.

Claims 1-44 are currently pending.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings.

2. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed. The drawing correction filed 06-05-02 has been approved by the examiner.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because in figure 2, reference character "14" has been used to depict both "the inner ring" and "the reinforcing ring". Correction is required.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the lateral flanks having a frustoconical shape", in claim 3, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Specification

Abstract

3. The replacement abstract has not been entered because the applicant did not provide a marked up copy.

The specification is objected to as failing to provide proper antecedent basis "for one of the lateral flanks is frustoconical" as in claim 3. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.


Claims 1-15 and 19-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, the phrase "essentially uniformly" is unclear and confusing because it is not clear if the rope is uniformly or not uniformly distributed over the ring.

In claim 20, lines 3-4, "the lateral flank" lack antecedent basis.

In claim 21, the phrase "at least either" renders the scope of the claim indefinite because it is not clear if the claim language is directed one of the inner and outer ring or both the inner and outer rings are connected to the reinforcing ring.

In claim 41, the phrase "indented cross-sectional profile" is confusing because it is unclear what is meant by cross sectional profile is referring to. Note a profile can also be referred to as an outer outline. Therefore, it is not clear if the profile is referring to the outline or the cross-sectional area of the ring.

In claim 25, line 2, "the lateral flank" lacks antecedent basis. In lines 3-4, the "clearance distance" lacks antecedent basis and in line 4, "the flange disks" lacks antecedent basis.



Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 6-11, ^{1 3}14-15, 21, 24-25, 36, 38 and 42, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Jones ('019). Jones discloses a pulley body (12), which has a rotationally symmetrical outer circumference, a pulley hub (not labeled), and a tire (13) which sits on the circumferential surface (not labeled), the tire has a radially outer ring section (the outer portion of the tire 13.), and a reinforcement ring (15), a radially inner ring section (16), the reinforcement ring is made from a rigid material relative to the inner and outer ring sections (col. 3, lines 14-24), the diameter of the reinforcing ring is smaller than the outside diameter of the outer ring. Jones also discloses that the body of radially inner ring and outer rings are made from an elastomeric material. In addition, Jones suggested that the body of the radially outer ring may be formed of a harder elastomeric material than that of the inner ring if so desired (col. 3, lines 59-65).

Regarding claims 2-3, the pulley body has two outer flanks between the circumferential surface of the pulley. Note; flange disks (11a and 11b) are bolted (detachable fastened) to the flanks.

In claim 6, note, the outer circumference of the radially outer ring (13) is concentric to the pulley hub in a no load state because there are no compressive load which occurs during operation or loaded state. / 6 - 18

In claim 7, note the rope groove (14) in the outer ring (13).

In claims 8-9, note, in figs. 1-2, the reinforcement ring (15) is embedded in the outer ring (13) and between the outer ring and the inner ring (16).

In claims 10-11, Jones suggested that the reinforcement ring maybe formed of any suitable reinforcing material such as an elastomeric material (plastic is a member) and a fabric web (col.3, lines 14-19). In addition, the reinforcing ring may be formed of a metal or metal mesh (sheet metal falls in the category of a metal and metal mesh).

In claims 14-15, note, in figs. 1, the outer ring (13) and the inner ring (16) each have an approximate constant thickness.

In claim 21, the reinforcing ring (15) and the outer ring are positively locked to each other (see fig. 1).

In claim 24, internal damping is an inherent property of an elastomeric material. Therefore, the radially inner ring, which is an elastomeric material, has internal damping.

In claim 25, note the distance between the lateral flanks of the outer ring (13) is equal to the clearance between the flange disks (11a-b) at the location of the outer ring.

In claim 36, note two parts (11a-b) are screwed together via bolt and nut.

Regarding claim 38, note the outer circumferential surface of the pulley body forms a cylindrical surface

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of JP('42635). Jones does not disclose that the corresponding width of outer circumferential surface pulley body corresponds to the width of the radially inner and outer rings and the radially inner and outer rings are approximately the same width. JP('42635) discloses a pulley comprising a radially outer ring (8), a radially inner ring (2) and a pulley body, wherein the body has a width which corresponds to the width of the inner and outer rings are approximately the same width in order to balance the fluctuating and compressive loads on the pulley during operation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jones pulley such that the pulley body has a width which corresponds to the width of the outer and inner rings and the outer and inner rings are approximately the same width in view of JP('42635) in order to balance the fluctuating and compressive loads on the pulley during operation.

9. Claim 12, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Nakamura et al.('038). Jones does not disclose that the reinforcing ring is formed by forging. It is well known in the art that forging is an obvious method choice for forming or shaping a ring. Nakamura et al. suggested a ring

(3) made from aluminum maybe shaped by cold forging to increase the wear resistance and toughness of the surface. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reinforcing ring of Jones so that it is made from aluminum and is shaped by forging in view of Nakamura et al. in order to increase the wear resistance and toughness of the surface.

10. Claim 13, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of JP('4240). Jones does not disclose a pulley that includes a reinforcing ring, which is made by casting. It is well known in the art that casting is an obvious method choice for make or shaping a ring. JP'4240) discloses a ring (15) made from a metal and is shaped by cold casting in order to minimize manufacturing cost and improve surface toughness. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reinforcing ring of Jones so that it is shaped by forging in view of JP('4240) in order to minimize manufacturing cost and improve surface toughness.

11. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Colford('176). Jones does not disclose that the inner ring contains textile reinforcement. Colford discloses a coating ring (6), which is made from a plastic material and is reinforced by fibers made from textile in order to reduce wear and tear and to provide uniformly good working properties (col. 2, lines 40-46). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inner ring of Jones so as to include reinforced textile fibers in view of Colford

in order to reduce wear and tear and to provide uniformly good working properties during operation.

12. Claims 27, 28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Lengenfelder, Jr. et al.('225). Jones does not disclose a clamping device assigned to the tire. Lengenfelder, Jr. et al. discloses a clamping device (70) which has an annular and substantially symmetrical form with radially inner and outer surfaces, wherein the clamping device is split into two parts (figs. 3 and 5) relative to the axial direction of the pulley body (18) in order to secure the radially outer ring to the pulley body and to ensure proper alignment between the outer ring and the pulley body during assembling. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jones device so as to include a split clamping device in view of Lengenfelder, Jr. et al. in order to secure the radially outer ring to the pulley body and to ensure proper alignment between the outer ring and the pulley body during assembling.

13. Claim 39-~~41~~ rejected under 35 U.S.C. 103(a) as being unpatentable over Jones. Jones does not disclose that the reinforcing is reinforced with fiber. It is well known in the art to reinforce elastomeric or plastic material with fiber in order to increase strength and wear resistance. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reinforcing ring of Jones with fiber, since it is well known in the art that using fiber as a reinforcement agent in plastic increases strength and wear resistance.

14. Claims 40-41 and 43-44, as understood, are rejected under 35 U.S.C. 103(a) as

being unpatentable over Jones in view of EP (194948). Jones discloses the claimed invention but does not disclose that the reinforcing ring has an indented non-uniform cross-section profile. EP(194,948) discloses a reinforcing ring (2) having an indented non-cross-section profile that is thicker at the outer ends than at the middle portion in order to retain the groove of the pulley and to the rope from inadvertent lateral slippage. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reinforcing ring of Jones to include the limitation of Jones in order to retain the groove of the pulley and to the rope from inadvertent lateral slippage.

Allowable Subject Matter

15. Claims 16-18 are allowed. *32-35, 37*
16. Claims ~~9-20, 22-23, 29-30, 32-35 and 37~~ would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

17. Applicant's arguments filed 06-05-2002 have been fully considered but they are not persuasive. .
18. Applicant contended that in claim 1, that the portion of the tire which the rejection takes as being the inner ring and outer rings are the same material. Applicant should note that Jones makes clear distinction between the inner and outer rings. Note in col.3, lines 14-24, Jones states, The tire accommodates a reinforcing ring (15) which

may be made of any suitable reinforcing material such as an elastic material similar to that of the main body but of greater strength or hardness. The inner layer (16) which is referred to the inner ring, and formed as the same elastomeric material of the body but maybe softer or more resilient than that of the maim body. As can be seen, although the materials maybe the similar they are not entirely the same. No same material has different properties. Regarding claims 12 and 13, applicant contend that one of ordinary skill in the art would not have transfer the teachings Nakamura et al. or JP('4240) to Jones, in that cold forging or casting of the reinforcing ring is not possible. Applicant has broadly disclosed the reinforcing ring as a rigid material and aluminum is a rigid material, which can be forged or cast. Therefore, it would have been obvious to one of ordinary skill in the art to forge or cast a rigid material such as aluminum to form the reinforcing ring of Jones.

19. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, regarding claims 27, 28 and 31, applicant contended that Jones does not disclose a clamping device and it would not be obvious to include the clamping device of Lengenfelder on Jones device. It should be noted that claim 27, 28 and 32, applicant broadly claimed a clamping


device assigned to the tire. Lengenfelder clearly disclose a clamping device assigned to a tire and is relative axial direction to the pulley (see fig.1). Jones also shows a clamping device ((17). Therefore, one of ordinary skill in the art would be able to modify Jones device to include a clamping device as taught by Lengenfelder for reasons already stated. Therefore the rejection is proper. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus Charles whose telephone number is (703) 305-6877. The examiner can normally be reached on Monday -Thursday 7:30 am-600 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on (703) 308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3597 for regular communications and (703) 305-3597 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.


DAVID A. BUCCI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600


Marcus Charles
Examiner
Art Unit 3682
August 9, 2002